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Zero-Two-Wine-Three-Eight

The most opinionated wine Newsletter in America



pHd of Wine

Newsletter #26

Book of Bertil 26.01

CHAPTER 1.0

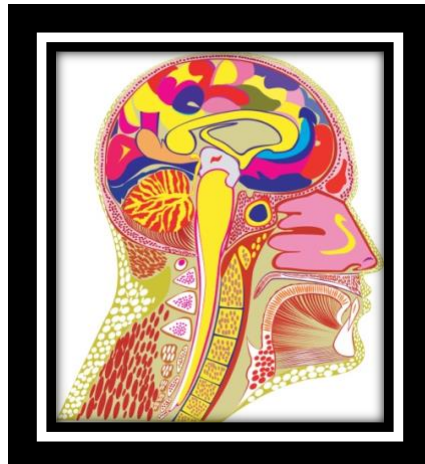
26.1.0 Introduction

Stretched out in a Le Corbusier chaise longue, my hands caress with pleasure the softness of the patina of leather worn out by the age of having housed great minds in search of answers to their intellectual and existential torments. I feel so privileged to have curled up there without really being invited. How lucky! The room is quiet and breathes softly like a sleeping dragon, in my eyes its half-light draws a feeling of grandeur and power. A strange feeling of sweetness and peace, I float in my oenophile dreams. But suddenly, the lights of the spotlights dazzle me from all sides. I am now standing behind a lectern facing hundreds of students. The amphitheater is packed, and questions rain down from all sides, a cacophony. I'm terrified, they all want to know how to figure out how to define their tastes in wine. It feels like an overdose of acid, I feel myself melting, diluting, falling apart. Suddenly I find myself sweating, sitting in bed with my eyes wide open. It's silent, it's still dark outside. After a few deep breaths, my body calms down. A point of light appears in the center of my forehead. It's an enlightenment, a revelation!! What if all the answers were just a missing link? Acid!

... Yes, Father, I praise you that you have willed it so. All things have been given to me by my father, and no one knows the Son but the Father; Nor does anyone know the Father except the Son and the one to whom the Son wants to reveal him.
Matthieu 11-25-37

Des nota beneon

So as not to mislead you or to get lost in the twists and turns of oenology, nor in the labyrinths of the physical and chemical science of wine, I will focus on the effects and consequences of acids in wine from a consumer perspective.

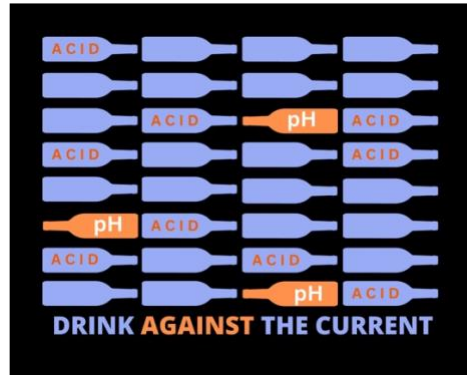


26.1.1 Acids and pH

Alas, I must take a few lines from this blank page to clarify the concept of acidity and pH of the wine. So, the six organic acids in wine are: Tartaric Acid, Malic Acid, Citric Acid, Lactic Acid, Acetic Acid, and Succinic Acid (additionally, Ascorbic, Sorbic and Sulphureous acids are inputs used in winemaking). From a tasting point of view, the term "acidity" refers to Tartaric, Malic, Citric, and Lactic acids (Acetic and Succinic acids are "passive" or "neutral" acids, therefore do not contribute to the taste of acidity). Acidity is measured by weight in grams-per-Liter (usually around 4-7g/l in wine), however, this does not give any indication as to the nature or strength of the acids present. Therefore, the most adequate method to measure the strength of acids and to identify the nature of the acids available is to use Real Acidity, better known as pH.

26.1.1.2 pH

The abbreviation pH refers to the concept of potential hydrogen, which is an index is used to measure the activity of the hydrogen ions in a solution. (An index is a measure that has only magnitude but no units.) If there is an equal amount of hydronium ions H_3O^+ and hydroxide HO^- , then the pH is 7 and it is a so-called "neutral" solution, which is the case for pure water at 77 Fahrenheit. An acidic medium contains more hydronium ions than hydroxide HO^- —the lower the number, the more acidic the solution. (If the number is greater than 7, then the solution will be basic). Another important element of the pH scale is that it is logarithmic, and therefore a pH of 3 is ten times more acidic than a solution with a pH of 4.



CHAPTER 2.0

26.2.1 The pH of the wine

The pH of wine usually varies between 3 and 4, most often it is around 3.5 to 3.6. The wine is very rarely below 3. To fully understand its intensity at the organoleptic level in your mouth, here is a comparison scale.

And don't forget an acidity of 3.5 is ten times more acidic than a wine of 3.6

Lemon Juice 2.2 - 2.6

Vinaigar 2.4 - 3.4

Grapefruit Juice 3-3.5

Orange Juice 3.6

Tomato Juice 3.9 - 4.7

Bananas 4.5 - 4.7

Clams 5.2 - 7.1

Corn 5.8 - 6.5

Butter 6.1 - 6.4

Oysters 6.3 - 6.7

Cow's milk 6.4 - 6.8

H₂O 7 - 7.2

26.2.2 Preamble to My Revelation



26.2.2.1 Physical

Pure acidity is not detected directly on the tongue, but rather in the acid-saliva mixture. So, to test your reaction and tolerance to acidity, after taking a sip of wine, open your mouth and assess the amount of saliva produced by your mouth—the sensation is felt on the inner walls of your lower cheeks. Saliva production is measured in a scale of 1 to 15, and it varies in each individual, and be aware that everyone has their own tolerance to acidity. So, a wine with a low pH (very acidic) seems lively and succulent for some, but acerbic, biting, and sharp for others. Similarly, a wine with a high pH (only slightly acidic) can seem delectable to some, but soft and flat to others.

Even though each grape variety has a particular acidity carried by their specific DNA (e.g. high-acid grapes vs. low-acid grapes), the true acidity of the wine begins in the vineyard. For example, vines absorb potassium from the soil, and the more potassium they absorb, then the more that it increases the pH (reduces acidity) of the grape. (Sometimes potassium is deliberately spread in the vineyard by the winemaker for specific treatments—it also plays a role in how the vine reacts to water stress.) Potassium is just one element, but each soil is composed of its own minerals and trace elements, and therefore its specificity and the type of vine will impact the marked acidity of the wine produced. In general, the following types of soils create the following types of wines:

- Limestone soils: fleshy and elegant wines with high acidity

- Siliceous soils (sand, gravel, etc.): rather fine and light wines with medium to high acidity
- Volcanic soils (Tufa, Jory): peppery wine, with great freshness, with medium to high acidity
- Marl soils (clay-limestone): powerful and full-bodied wines with medium acidity
- Granite soils (Granite, Schist): Soft and aromatic wines with medium acidity
- Clay soils: voluminous and full-bodied wines with medium to high acidity

The set of soils and their possible different mixtures exist in all wine-growing regions of the world. So why is there still such a big difference in acidity between a Pomerol Cabernet Sauvignon from Bordeaux, and the same Cabernet Sauvignon from Rutherford in Napa Valley? This is due to two main factors: climate and human intervention.

The vintage of the wine, as in the climate in the year that the grapes were grown, will cause the acidity of the wine to differ (thus the comparisons of a good or a bad vintages). The factors that are affected by climate in a vintage are: light, sunlight, and the stress of the vine. The more days of light and sunshine there are in the year, the less acidic the wine will be.

The winemaker can also make choices that affect the acidity of the wine. For example, a Cabernet Sauvignon that has undergone malolactic fermentation will result in a wine with a higher pH.

26.2.2.1 And therefore if:

- For red, rosé, and orange wines, the three basic elements that make up the texture of wine are fruit-sugar (fructose), acidity, and tannins.
- Acidity alters the perception of sugar and tannin.
- The more acidity there is (lower pH), the more intense the tannins will appear on the palate.
- The less acidity there is (higher pH), the more the perception of sugar in the wine ("the fruitiness") will be accentuated. *

***But beware:** Sucrose in wine is often confused with fruitiness. If the average residual sugar of a dry wine is 4 grams (1 teaspoon) per liter, then a wine with a pH of 3.4 that has 6 grams of residual sugar will seem less sweet than a wine with a pH of 3.6 that has only 5 grams of sugar. That is to say, the wine with more sugar will taste less sweet because of its higher acidity.

- The color of the wine: The lower the pH (higher acidity), the more intense will be the purplish color of red wine, and the brighter and clearer the color of the white wines.
- Malic acid (green apple) tastes more acidic than lactic acid (milk). So, if the wine has undergone Malolactic fermentation (second fermentation), which converts malic acid to lactic acid, the wine will seem less acidic.

26.2.2.2 But then:

The more the wine comes from a warm region (temperate to hot Mediterranean climate), and from clay soil, the more powerful the wine will be in terms of tannin and sugar (alcohol). For example, a Cabernet Sauvignon that originates from a warm continental region will result in a wine with a higher pH (less acidity). On the other hand, if it comes from a cooler oceanic climate, the wine will be less powerful (less alcohol) and the acidity will be more accentuated (lower pH). The same comparison can be made for a white grape variety, such as Chardonnay.

In general, New World Wines are less acidic, with a pH of 3.6 and above, while Old World Wines are more acidic, with a pH of 3.5 and below.

26.2.2.3 So if you like...

- White wines that are fruity and crisp, with a nice freshness and red wines with finer and less fatty tannins, then turn to wines with a cold temperate climate. These are usually known as "Old World" style.
- White wines that are fleshier, round, and with a round mouth and red wines with more assertive tannins and a more present alcohol, then go for temperate-warm climate wines with more sun and warmth throughout the year. These are usually known as "New World" style.

26.2.2.4 Determine your acidity tolerance level.

- If you have a higher acidity tolerance (10 to 15 on the acidity tolerance scale) and if you like skim milk, grapefruits, unsweetened lemonade, vinegary dressings, and very tangy tomato sauces, then opt for white wines with a very pale, almost green, color. For red wines, look for wines that are light in color with almost non-existent tannins in the mouth.
- If you have medium acidity tolerance (5 to 10 on the acidity tolerance scale), and if you like 2% milk, fresh grapefruit with a spoonful of sugar on top, medium-sweet lemonade, balsamic dressings, fruity tomato sauces, and commercial orange juice, then opt for fuller white wines with a youthful gold color. For reds, look for wines with more pronounced tannins (but that aren't aggressive or drying), and a ruby to light purple color.
- If you have low acidity tolerance (1 to 5 on the acidity tolerance scale), and if you like whole milk and cream in your coffee, very ripe bananas, milk chocolate, whole butter, sweet corn, jammy red berries, then opt for very fleshy white wines, which have undergone malolactic fermentation, with an gold color going to a slight orange. For the reds, look for wines with powerful tannins, and a deep purple to intense purple color, and an alcohol above 14.5%.
- And don't forget that acidity is freshness: it's the liveliness of the wine.

26.3.1 Additionally

Acidity is essential for the preservation of wine. Wines with 3.2 and 3.5 pH are more resistant to harmful bacteria, as well as have greater ageing potential. A wine with a higher pH (lower acidity) requires higher sulfite additions to reduce the chance of rapid oxidation, which would increase the growth of bacteria. But above all, acidity allows you to choose food and wine pairings. Because "acidity hits the fat".



Conclusion

Finally, my Revelation:

- If all winemakers would write the pH on their wine labels, wine shops could then organize their selections simply by pH level.
- And restaurants could do the same with their wine lists.
- The description of wines could be simplified to a language accessible to all.
- And we'd ease consumer anxiety from 15 to 0 in one fell swoop.

So long live the pH, and long live to a free choice for all.

Mr B.

*Memorandum:

My words and opinions in these newsletters are and would always be personal, and I intend to offend.

I always accept that others have the full right and duty to challenge me, to argue, and, if it is necessary, excommunicate me from their beliefs (often dull and hollow) because I would act the same way if it were the other way around.

bonde
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